

Appl. No. 10/775,689

Attorney Docket No. HSI920030091US1

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

Claim 1. (original) A method for improving the format efficiency of a hard disk of a hard disk drive, the hard disk drive having a rotary actuator and a read/write head, the read/write head having a read element that is offset from a write element, the method comprising:

determining a radial position of the read/write head with respect to the hard disk;  
writing a data track having a length between successive servo sample areas that is based on an arc of the rotary actuator, the radial position of the read/write head with respect to the hard disk and the offset between the read element and the write element.

Claim 2. (original) The method according to claim 1, further comprising determining the length of the data track from a look-up table.

Claim 3. (original) The method according to claim 1, further comprising determining the length of the data track based on a determination of the arc of the rotary actuator, the determined position of the read/write head with respect to the hard disk, and the physical offset between the read element and write element.

Claim 4. (original) The method according to claim 1, further comprising determining the length of the data track based on an angular position of the rotary actuator.

Claim 5. (original) A disk drive, comprising:  
a rotary actuator;  
a read/write head having a read element that is offset from a write element; and  
at least one hard disk drive, the hard disk drive having at least one data track having a length between successive servo sample areas that is based on an arc of the rotary

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actuator, the radial position of the read/write head with respect to the hard disk and the offset between the read element and the write element.

Claim 6. (original) The hard disk drive according to claim 5, wherein the length of each data track is determined from a look-up table.

Claim 7. (original) The hard disk drive according to claim 5, wherein the length of the data track is based on a determination of the arc of the rotary actuator, the determined position of the read/write head with respect to the hard disk, and the physical offset between the read element and write element.

Claim 8. (original) The hard disk drive according to claim 5, wherein the length of the data track is based on an angular position of the rotary actuator.

Claim 9. (new) A system for reading and writing data, comprising:  
a rotary actuator;  
a read/write head having a read element and a write element; and  
at least one hard disk drive configured to write data to data tracks on a hard disk, wherein lengths of the data tracks vary at varying distances from a center of the hard disk such that the length of unused areas between the data tracks and subsequent servo samples varies with a relative offset between the read element and the write element at a corresponding distance from the center of the hard disk.

Claim 10 (new) The system according to claim 9 wherein the length of each of the data tracks is determined from a look-up table.